IntelliVue MP20/MP30

Quick Guide

IntelliVue
M8001A/M8002A

M8001-9101E

CE 0366

The monitors, together with the Multi-Mea-
surement Server (M3001A) and measurement
server extensions, comply with the Medical
Device Directive 93/42/EEC .
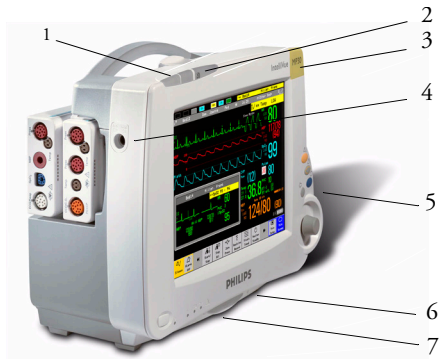
PHILIPS

Getting Started

This Getting Started Guide gives you an introduction to the MP20/MP30 monitors and helps you get started with monitoring. Refer to the Instructions for Use for full information and instructions for the monitors, to ensure safe and appropriate use.

IntelliVue MP20/MP30

The IntelliVue M20/MP30 (M8001A/M8002A) patient monitor combines patient surveillance and data management in a compact, portable monitor. It has a 10-inch TFT LCD flat panel SVGA display. The standard input devices for the MP30 are the Touchscreen and integrated navigation point; the MP20 is supplied with an integrated navigation point only. Up to four waves can be shown on MP20/MP30 Screens, 12 ECG traces can be shown on the 12-Lead ECG Screen.

The MP20/MP30 can be connected to one Multi-Measurement Server (MMS) and any one of the measurement server extensions.

MP20/MP30 Major Parts and Keys

5 Navigation Point

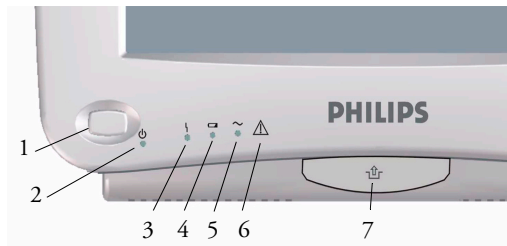**6** Part number and serial number

7 Mounting quick-release lever

1 Color-coded alarm lamps

2 Alarms off lamp

3 Model indicator

4 ECG out

MP20/MP30 front panel

MP20/MP30 LED Colors and their Meanings	
On/Standby LED	Green when monitor is switched on
Error LED	Red if there is a problem with the monitor
Battery LED	Green, yellow, and red. See the section on Using the Batteries for details

1 On/Standby switch

2 On/Standby LED

3 Error LED

4 Battery status LED

5 AC power operation LED

6 "read the documentation" symbol

7 Mounting quick-release lever

Related Products

Related products extend the measurement capabilities of your monitor. None of the related devices have their own power on/standby switches. They take their power from the monitor, and switch on automatically when you turn on the monitor. A green power-on LED indicates when they are drawing power from the monitor. A permanently illuminated, or flashing, red LED indicates a problem with the unit that requires the attention of qualified service personnel.

Multi-Measurement Server (M3001A)

The Multi-Measurement Server (MMS) can simultaneously monitor 3-, 5- or 10-lead ECG (including arrhythmia and ST monitoring), respiration, SpO_2, NBP and either invasive pressure or temperature. You can connect it to the monitor via a cable or mount it on the back of the monitor, as shown here.

Measurement Server Extensions

The measurement server extensions connect to the MMS and use the MMS settings and power. Trend data and measurement settings from the measurements in the extensions are stored in the measurement server.

The measurement server extensions are not intended to be disconnected from the MMS. To exchange an extension, you must exchange the measurement server and extension together.

The measurement server extensions must not be disconnected from the host measurement server during monitoring. When the extension is disconnected, all measurement server and extensions settings revert to default and any trend data stored in the measurement server is lost.

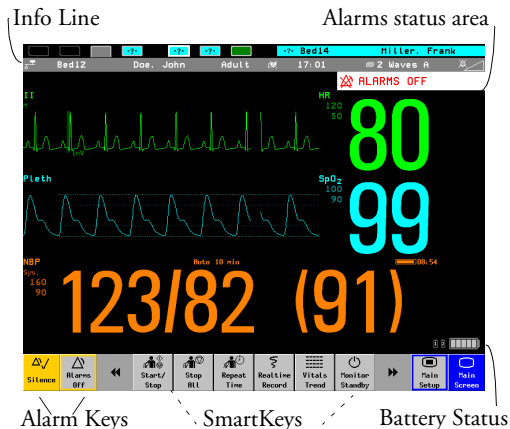## M3015A and M3016A Microstream and Mainstream CO_2 Extensions

The optional M3015A Microstream CO_2 Extension adds microstream capnography and either pressure or temperature to the MMS. The optional M3016A Mainstream CO_2 Extension adds mainstream capnography and either pressure or temperature to the MMS.

M3012A Hemodynamic Measurement Server Extension

The optional M3012A Hemodynamic Measurement Server Extension (HMSE) can be connected to the M3001A Multi-Measurement Server to provide the following additional measurements: Temperature, Pressure, an additional Pressure or Temperature, and C.O. and CCO measurements.

Operating and Navigating

Everything you need to operate the monitor is contained on its screen. Almost every element on the screen is interactive. Screen elements include measurement numerics, waveforms, screen keys, information fields, alarms fields and menus.

Info Line   Alarms status area

Alarm Keys   SmartKeys   Battery Status

The configurability of the monitor means that often you can access the same element in different ways. For example, you might be able to access an item through its on-screen setup menu, via a hard key, or via a SmartKey.
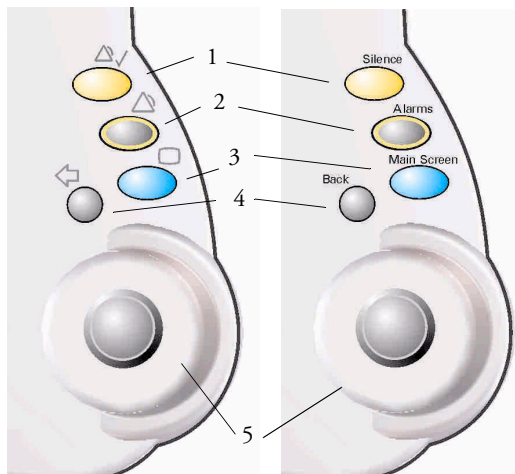
Select a screen element to tell the monitor to carry out the actions linked to the element. For example, select the HR numeric to call up the Setup ECG menu or select the ECG wave segment to call up the ECG lead menu.

To select an element in the monitor info line, select the line then select the appropriate element from the menu. For example, select the info line then the **Admit/Dischrg** element from the menu to call up the **Patient Demographics** window.

Using the Touchscreen

Select screen elements by pressing them directly on the monitor's screen.

Using the Navigation Point

1 Silence - acknowledges all active alarms by switching off audible alarm indicators and lamps. Exact behavior depends on permanent key configuration

2 Alarms Off/Pause Alarms - pauses alarm indicators. Exact behavior depends on Pause Alarms permanent key configuration

3 Main Screen - closes all open menus and windows and return to the main screen.

4 Back - takes you back one step to the previous menu.

5 Navigation Point knob

To use the navigation point, rotate it left or right. With each click, the highlight jumps to the neighboring screen element. The element under the cursor is highlighted. When you reach the screen element you want, press the knob to select the element.

The elements at the top of the Screen are grouped together for ease of navigation. Select any item at the top of the Screen to open the Setup menu; scroll down the menu to highlight the element you want then press the navigation point to select the element.

Using Keys

The monitor has four different types of keys.

Permanent Keys

A permanent key is a graphical key that remains on the screen all the time to give you fast access to functions.

Pause Alarms - pauses alarm indicators. Pause duration depends on monitor configuration. If pause duration is infinite, this key is labeled **Alarms Off**.

Select again to immediately re-enable alarm indicators.

Silence - acknowledges all active alarms by switching off audible alarm indicators and lamps.

Main Screen - close all open menus and windows and return to the main screen.

Main Setup - enter main setup menu.

SmartKeys

SmartKeys are configurable graphical keys, located at the bottom of the main screen. They give you fast access to functions. The selection of SmartKeys available on your monitor depends on your monitor configuration and on the options purchased.

Hardkeys

A hardkey is a physical key on a monitoring device, such as the zero pressure key on the MMS.

Pop-Up Keys

Pop-up keys are task-related graphical keys that appear automatically on the monitor screen when required. For example, the confirm pop-up key appears only when you need to confirm a change.

Operating Modes

When you switch the monitor on, it starts up in monitoring mode. To change to a different mode:

1 Select the **Main Setup** menu.

2 Select **Monitor**.

3 Select **Operating Modes** and choose the mode you require.

Your monitor has four operating modes. Some are passcode protected. Passcodes can be found in the Service Guide

- **Monitoring Mode**: This is the normal, every day working mode that you use for monitoring patients. You can change elements such as alarm limits, patient category and so forth. When you discharge the patient, these elements return to their default values. Changes can be stored permanently only in Configuration Mode. You

may see items, such as some menu options or the altitude setting, that are visible but 'grayed out' so that you can neither select nor change them. These are for your information and can be changed only in Configuration Mode.

- **Demonstration Mode**: Passcode protected, this is for demonstration purposes only. You must not change into Demonstration Mode during monitoring. In Demonstration Mode, all stored trend information is deleted from the monitor's memory.
- **Configuration Mode**: Passcode protected, this mode is for personnel trained in configuration tasks. These tasks are described in the Configuration Guide. During installation the monitor is configured for use in your environment. This configuration defines the default settings you work with when you switch on, the number of waves you see and so forth.
- **Service Mode**: Passcode protected, this is for trained service personnel.

When the monitor is in Demonstration Mode, Configuration Mode, or Service Mode, this is indicated by a box with the mode name in the center of the Screen and in the bottom right-hand corner. Select this field to change to a different mode.

Changing Measurement Settings

Each measurement has a setup menu in which you can adjust all of its settings. You can enter a setup menu:

- via the measurement numeric - select the measurement numeric to enter its setup menu. For example, to enter the **Setup ECG** menu, select the HR (heartrate) numeric.
- via the **Main Setup** SmartKey - if you want to setup a measurement when the measurement is switched off, use the **Main Setup** SmartKey and select Measurements. Then select the Measurement name from the popup list. With this SmartKey you can access any setup menu in the monitor.

Switching a Measurement On and Off

When a measurement is off, its waves and numerics are removed from the monitor's screen. The monitor stops data acquisition and alarming for this measurement. A measurement automatically switches off if you disconnect its measurement server. If you disconnect a transducer, the monitor replaces the measurement numeric with question marks.

1 Enter the measurement's setup menu and select the measurement.

2 Select the measurement name to toggle between on and off. The screen display indicates the active setting.

Adjusting a Measurement Wave

• To quickly adjust wave-related measurement settings (such as speed or size), select the measurement wave itself. This displays the measurement **Wave** menu, which has only wave-related measurement settings.

Changing a Wave Speed

Lowering the wave speed compresses the wave and lets you view a longer time period. Increasing the speed expands the waveform, giving you a more detailed view.

The monitor distinguishes two groups of wave speed settings,

• **RespiratorySpeed**, for all respiratory waves: CO_2, Resp. anesthetic agents and O_2

• **Global Speed**, for all other waves.

Changing the wave group speed

1 Select **Main Setup** -> **User Interface**

2 Select Global Speed or RespiratorySpeed as required

3 Select a value from the list of available speeds.

Changing wave speed for a channel

1 Enter the **Wave** menu for a measurement by selecting its wave.

2 Select **Change Speed**.

3 To set the speed to the wave group speed, select **RespiratorySpeed** or **Global Speed**. To set an individual channel speed, select a numeric value from the list of available speeds to override the wave group speed setting and set the speed for the individual wave channel on the monitor Screen. The wave channel speed is independent of the wave (label) depicted in the channel, if you change the wave, the new wave will retain the set channel speed.

Changing Monitor Settings

• To change monitor settings such as date and time, brightness, or QRS tone volume, select the **Main Setup** SmartKey and then select the setting you want to change, or select **User Interface** to enter a submenu where you can change user interface settings.

Starting Monitoring

Inspecting the Monitor

1 Before you start to make measurements, carry out the following checks on the monitor including all connected Measurement Servers, or measurement server extensions.
   – Check for any mechanical damage.
   – Check all the external cables, plug-ins and accessories.

2 Plug the power cord into the AC power source. If you are using battery power, ensure that the battery has sufficient power for monitoring. When you use a battery for the first time, you must charge it, following the instructions given in the Instructions for Use section on Charging Batteries.

3 Check all the functions of the instrument that you need to monitor the patient, and ensure that the instrument is in good working order.

Switching On

• Press the on/off switch on the monitor for one second. The monitor performs a self test and is then ready to use. If you see a message such as **CO2 Sensor Warmup** wait until it disappears before starting monitoring that measurement. Connected devices usually take their power from the monitor

Setting up the Measurement Servers

1 Decide which measurements you want to make.

2 Connect the required Measurement Servers, or Measurement Server Extensions.

3 Check that you have the correct patient cables and transducers plugged in. The connectors are color-coded to the patient cables and transducers for easy identification.

Starting Monitoring

After you switch on the monitor,

1 Admit your patient to the monitor.

2 Check that the profile, alarm limits, alarm and QRS volumes, patient category and paced status and so forth are appropriate for your patient. Change them if necessary.

3 Refer to the appropriate measurement section of the Instructions for Use for details of how to perform the measurements you require.

Disconnecting from Power

The On/Standby switch does not disconnect the monitor from the ac power source. To disconnect, unplug the power cable.
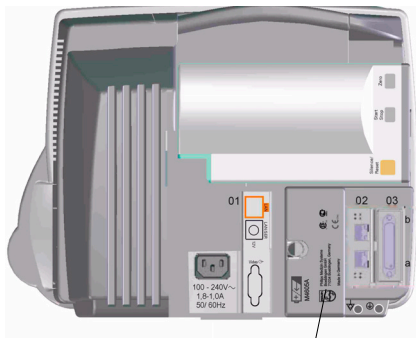
Networked Monitoring

If your monitor is connected to a network, a network symbol is displayed in the upper left corner next to the bed label.

Select the monitor info line and **Bed Information** from the menu to see details of the Care Group, the equipment label and technical information about the network.

Using the Batteries

One OR two Philips M4605A rechargeable Lithium Ion batteries must be inserted into the battery compartment at the rear of the monitor to use the MP20/MP30 monitor with battery power.

Battery compartment

You can switch between battery-powered and mains-powered (AC) operation without interrupting monitoring.

The batteries recharge automatically whenever the monitor is connected to mains power.

Battery Indicators and Status Information

The battery LED and battery status information on the Main Screen, in combination with INOP messages and prompts, help you keep track of the battery power status. The indicators always show the remaining capacity in relation to the battery's actual maximum capacity, which may lessen as the battery ages. You can see the actual capacity in the **Battery Status** window.

Battery LED

Battery LED Colors	When monitor on mains power, this means	When monitor on battery power, this means
Green	battery power is > 90%	
Yellow	batteries charging (battery power < 90%)	
Red, flashing		less than 10 minutes power remaining
Red, flashes intermittently	battery malfunction	battery malfunction
Red, flashes once when on/standby switch is pressed		not enough battery power left to power monitor